

**Nevada Goldfields Inc.**  
**Barite Hill Project**

POB 1530  
McCormick, SC 29835  
USA Telephone: 864-443-2222  
USA Fax: 864-443-2187

**RECEIVED**

**DEC 4 1998**

**Water Monitoring, Assessment &  
Protection Division**

November 25, 1998

SCDHEC  
Bureau of Water Pollution Control  
2600 Bull Street  
Columbia, SC 29201  
Attn: Bruce Crawford

RE: Barite Hill Project – Ground water results/ third quarter 1998  
Permit # 16,225 Condition 3

Dear Bruce,

Enclosed are the results of the ground water samples for the third quarter 1998. The following observations were made:

GW1 – Calcium was 19.7 mg/L vs. a calculated tolerance limit of 13.16 mg/L. Cadmium was 0.110 mg/L vs. a calculated tolerance limit of 0.047 mg/L. Copper was 5.21 mg/L vs. a calculated tolerance limit of 3.26 mg/L. Sodium was 54.9 mg/L vs. a calculated tolerance limit of 11.6 mg/L. Zinc was 3.98 mg/L vs. a calculated tolerance limit of 1.83 mg/L. Chloride was 9.03 mg/L vs. a calculated tolerance limit of 6.62 mg/L. Sulfate was 491 mg/L vs. a calculated tolerance limit of 239.3 mg/L. Ammonia was 3.26 mg/L vs. a calculated tolerance limit of 0.556 mg/L. TDS was 632 mg/L vs. a calculated tolerance limit of 230 mg/L. The well was dry after removal of one well casing volume was removed. The samples were collected after the well was allowed to recharge.

GW2 - Copper was 6.06 mg/L vs. a calculated tolerance limit of 1.308 mg/L. Ammonia was 1.85 mg/L vs. a calculated limit of 0.328 mg/L. Manganese was 1.33 mg/L vs. a calculated tolerance limit of 0.83 mg/L. Sodium was 19.2 mg/L vs. a calculated tolerance limit of 14.6 mg/L. Sulfate was 704 mg/L vs. a calculated tolerance limit 212 mg/L. TDS was 868 mg/L vs. a calculated tolerance limit of 431 mg/L. The well was dry after one casing volume was removed. The samples were collected once the well recharged.

GW3 – Alkalinity was 179 mg/L vs. a calculated tolerance limit 121 mg/L. Sulfate was 59.9 mg/L vs. a calculated tolerance limit of 39.7 mg/L. The well was dry after one well casing volume was removed. The samples were collected once the well recharged.

GWH – Sodium was 15.3 vs. a calculated tolerance limit of 6.46 mg/L.

GW1 – Sodium was 8.97 mg/L vs. a calculated tolerance limit 7.56 mg/L.

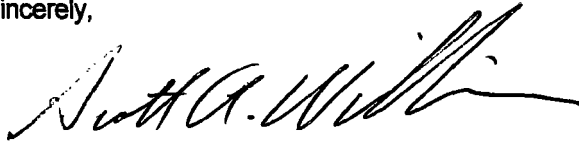
GWJ – All the constituents were within the calculated tolerance limits.

GWK – All the constituents were within the calculated tolerance limits. The well was dry after removal of one well casing volume. The samples were collected once the well recharged.

GWP – All the constituents were within the calculated tolerance limits.

If you have any questions, please contact me at 864 443-2222.

Sincerely,

A handwritten signature in black ink, appearing to read "Scott A. Wilkinson". The signature is fluid and cursive, with a long horizontal stroke at the end.

Scott A. Wilkinson  
Project Manager

Cc: Frank Filas; Corporate Environmental Manager

file:scdhebc112598

**GW Wells Monitoring Report  
Third Quarter 1998**

**NEVADA GOLDFIELDS  
McCormick, SC**

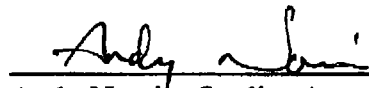
## **SIGNATURE PAGE**

This report, "Groundwater Sampling and Analytical Procedures Report for Third Quarter, 1998," has been prepared in accordance with accepted quality control practices at the request of and for the exclusive use of **NEVADA GOLDFIELDS**. The report has been reviewed by the undersigned reviewers.

**SHEALY ENVIRONMENTAL SERVICES, INC.**

A handwritten signature in cursive script, appearing to read "Michael A. Woodrum", written over a horizontal line.

Michael A. Woodrum, Vice President of Analytical Services  
October 28, 1998

A handwritten signature in cursive script, appearing to read "Andy Norris", written over a horizontal line.

Andy Norris, Quality Assurance/Quality Control Officer  
October 28, 1998

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# **GROUNDWATER SAMPLING AND ANALYTICAL PROCEDURES REPORT**

**Third Quarter 1998**

**NEVADA GOLDFIELDS, INC.  
McCormick, SC**

## **I. INTRODUCTION**

This report describes the procedures followed by **SHEALY ENVIRONMENTAL SERVICES, INC. (SHEALY)** during the sampling and analysis of groundwater at **NEVADA GOLDFIELDS, McCormick, SC**. The report includes procedures for:

1. Sample collection
2. Sample preservation
3. Chain-of-Custody control
4. Analytical protocol

These procedures were developed by **SHEALY** to comply with the sampling procedures recommended by **SCDHEC**, the **US Environmental Protection Agency (EPA)**, the **Resource Conservation and Recovery Act (RCRA)**, **Groundwater Monitoring Technical Enforcement Guidance Document (TEGD) (1986)**, and published research findings. The protocol described was designed to insure that the integrity of the samples were maintained in the field, during transit to the laboratory and throughout the analytical procedures.

### **I.A. MONITORING PARAMETERS AND FREQUENCY**

The following wells were sampled during August 1998:

GW-1	GW-2	GW-3	Well K
Well J	Well H	Well P	Well I

These monitoring wells were analyzed for the following parameters:

*TDS	* Nitrate-N	* Nitrite-N	* Alkalinity-Bicarbonate
*Sulfate	*Chloride	*TOC	* Ammonia * Cyanide
*Metals: As,Hg,Se,Pb,Al,Ba,Cd,Ca,Cr,Cu,Fe,Mg,Mn,Ni,K,Ag,Na,Zn			
Dissolved Cu			

### **I.B. SAMPLING PROTOCOL**

The procedures described below are intended to insure that representative groundwater samples are collected. Procedures for measurement of the water table depth, measurement of total well depth, well evacuation, and sample collection are included.

For each well, all data collected were recorded on a Field Data Information Sheet. Prior to the initiation of activities at each well, all sampling personnel put on new, laboratory quality PVC gloves. These gloves were replaced as necessary during the well evacuation and sampling procedure. Prior to the collection of any groundwater quality data at each well, the surface integrity of the well was checked. Any problems which could affect groundwater sample integrity were noted on the Field Data Information Sheet.

#### **I.B.1. Water Level Measurement**

Prior to the evacuation of each monitoring well, the depth to the water table was determined with the use of an electronic water level indicator. The water level indicator uses a sensitive circuitry to activate a buzzer when electrical continuity is made at the probe. The sensitivity is set so that waters with conductivities greater than approximately one umhos/cm will close the circuit. After use at each well, the instrument was cleaned according to the "Field Cleaning Procedures," which are described in Section I.C.1. The depth to the water table was measured by turning the instrument on and then slowly lowering the instrument probe into the well until the buzzer sounded. The distance from the measuring point of the well to the water level was then measured and recorded. The instrument was calibrated in 0.05 foot increments. All measurements were made and estimated to the nearest 0.01 foot.

#### **I.B.2. Total Depth Measurement**

The total depth measurement is used in calculating the volume of water standing in the well casing. The total well depth was taken from historical data.

#### **I.B.3. Well Evacuation**

The purpose of the well evacuation procedure is to initiate the introduction of water from the surrounding aquifer into which the well is placed. By removing standing water from the well, a hydraulic gradient is created which results in water from the surrounding aquifer into the well. The quality of this water is representative of the water quality immediately surrounding the well.

Well evacuation and sampling of all wells at the site were done using 1.66 inch outside diameter, three foot long Teflon or stainless steel bailers with a single bottom check valve. All bailers were cleaned at the laboratory prior to use, and a separate bailer was used for each well. When field cleaning was required, the method outlined in Section I.C.1. was used and new 1/8 inch nylon twine was used for each well.

The following steps were followed for evacuation with Teflon bailers:

1. The depth to the water table was subtracted from the total well depth to determine the length of the water column. The water column length was multiplied by the appropriate conversion factor for that particular well casing diameter to determine the volume, in gallons, of water standing in the well casing. This volume was then multiplied by three to calculate the standard evacuation volume.
2. The bailer was lowered to a depth just below the water level in the well each time to insure adequate evacuation of the standing water.
3. The pH and Specific Conductivity were measured and recorded periodically during well evacuation. For high yield wells, well evacuation continued until the standard evacuation volume was removed and both pH and Specific Conductivity were relatively stable. Stability of the pH is defined as two consecutive measurements varying by no more than 10 percent. All evacuated volumes and field measurements were recorded on the Field Data Information Sheet.

Wells which were evacuated to dryness prior to reaching the standard evacuation volume were sampled as soon as a sufficient volume of water had entered the well. Field parameters were measured prior to sample collection to insure water quality stability.

#### **I.B.4. Sample Collection**

The primary consideration during the collection of groundwater samples is to insure that the sample is not altered or contaminated during withdrawal from the well and introduction into the sample container.

A complete set of pre-cleaned and pre-labeled sample containers were removed from the cooler and slowly filled with fresh sample, poured directly from the bailer. Preservatives were added to the sample bottles prior to leaving for the sampling event. Care was taken to insure that the bailer did not contact the sample bottle during filling. The filled bottles were then capped and securely placed into the pre-cleaned cooler. The Chain of Custody Form, was then completed for that well. Finally, the well was re-capped and locked.



### **I.C. FIELD QUALITY CONTROL**

A strict quality control program is followed in the field by SHEALY to insure that sample integrity is maintained during sample collection and transit to the laboratory. In addition, all equipment and instruments are carefully maintained and calibrated in accordance with schedules and procedures described in SHEALY's Quality Control Manual entitled "SOP and QA Manual for Groundwater Sampling".

#### **I.C.1. Field Cleaning Procedures**

All field equipment and instrumentation are cleaned at the laboratory according to standard laboratory procedures upon return from each sampling trip. Field equipment and instrumentation include: sample coolers, pH and Specific Conductivity meters, and field measurement vessels. If instrumentation and field equipment were used on more than one well, it was cleaned according to the following field cleaning procedures:

1. Rinse item thoroughly with a 5% phosphate-free laboratory detergent solution.
2. Rinse item with deionized water, twice.

#### **I.C.2. Field Instruments and Measuring Devices**

Instruments and devices used to collect field data at the NEVADA GOLDFIELDS facility include: pH and Specific Conductivity meters and an electronic water level indicator.

The pH and Specific Conductivity meters were calibrated in the field prior to sampling. The pH meter was calibrated using a 4 SU standard and a 10 SU standard. The Specific Conductivity meter was also calibrated in the field according to SHEALY's Field Operation SOP and the manufacturer's specifications. All calibration records for both meters are recorded in the appropriate calibration log books maintained at Shealy.

#### **I.C.3. Field Blanks**

One set of field blanks was collected during the sampling event. At that time, one set of bottles was randomly removed from the sample cooler and labeled as "Field Blank". The Field Blank was obtained by filling a laboratory cleaned bailer with deionized water. This water was then poured into the labeled sample bottles. The deionized water is also used to rinse field equipment. Once filled, the field blanks were treated as samples and placed in the sample cooler for transport to the laboratory. Field blanks and groundwater samples were analyzed for the same parameters in order to assure quality control during sampling, transportation, and analysis.

#### **I.C.4. Field Data Information Sheet**

All pertinent field information was recorded on the Field Data Information Sheet as it was collected. This information includes: date of sampling, name of collector, monitoring well number, casing diameter and material of construction, well integrity, measuring point elevation, total well depth, depth to groundwater, volume of water in casing, method of evacuation and sampling, total volume of water evacuated, field measurements with time and volume evacuated, and field observations. Information on the Field Data Information Sheets was reviewed upon arrival at the laboratory and pertinent information transferred to the Certificate of analysis and noted as field measurements.

#### **I.C.5. Sample Transportation and Chain of Custody**

The transportation of groundwater samples from the time of collection to their arrival at the laboratory is an important part of the groundwater monitoring program. The mode of travel must be such that the sample is not altered physically, chemically, or biologically. The travel time to the laboratory must not interfere with the sample holding time. The Chain of Custody must also be maintained during the transportation process. Samples collected at the NEVADA GOLDFIELDS facility remained in the possession of SHEALY personnel and were transported to the laboratory within the allowed holding time of all the required parameters. Custody is defined as:

1. Being in one's physical possession.
2. Being in one's view, after being in one's possession.
3. Being in a designated secure area.

Upon arrival at the laboratory, the sampling personnel relinquished the samples to the laboratory sample custodian. This transaction was documented on the Chain of Custody Form.

Reviewed By:

  
Milton P. Quattlebaum  
Field Service Supervisor

  
Date

10/28/98

## **II. ANALYTICAL PROTOCOL**

The analytical protocols used at SHEALY to insure that groundwater quality at the **NEVADA GOLDFIELDS** facility was accurately detected and quantified were taken from two EPA sources, Methods for Chemical Analyses of Water and Wastes and Test Methods for Evaluation Solid Waste. The analysis for metals was for the total recoverable fraction. Laboratory Quality Control/Quality Assurance procedures are presented in detail in the SHEALY's SOP Manuals.

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111  
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 147431  
Description: GW-1

Coll. Date: 09/25/98  
Coll. Time:

Date Received: 09/25/98  
Date Reported: 10/28/98  
Date Revised: 11/23/98

QA/QC Officer na  
V.P. Analytical ma

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		36.95	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		24.95	ft.		09/25/98	GWS
pH-Field at 17.0 C	150.1	3.68	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	448	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	17.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	16.2	mg/l		09/28/98	NWD
Ammonia-N	350.3	3.26	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	9.03	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDH
Nitrate-N	353.2	0.568	mg/l		09/25/98	NWD
Nitrite-N	354.1	0.065	mg/l		09/25/98	NWD
Sulfate	300.0	491	mg/l		10/02/98	JPS
TOC	415.1	3.4	mg/l		10/01/98	JPS
TDS	160.1	632	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	13.8	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	0.006	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.098	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	0.110	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	19.7	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	0.005	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	5.21	mg/l	10/09/98	10/12/98	FTS
Iron	200.7	57.7	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	14.5	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	2.79	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	0.006	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	0.077	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	1.45	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	0.014	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	54.9	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	3.98	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	4.48	mg/l	10/09/98	10/12/98	FTS

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SC DHEC No. 32010

NC DEHNR No. 329

**Client:** NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

**Attention:** Scott Wilkinson

**SHEALY Lab No:** 147432  
**Description:** GW-2

**Coll. Date:** 09/25/98  
**Coll. Time:**

**Date Received:** 09/25/98  
**Date Reported:** 10/28/98  
**Date Revised:** 11/23/98

**QA/QC Officer** MA

**V.P. Analytical** MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		28.20	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		22.50	ft.		09/25/98	GWS
pH-Field at 18.0 C	150.1	3.62	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	750	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	18.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	17.8	mg/l		09/28/98	NWD
Ammonia-N	350.3	1.85	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	4.90	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDR
Nitrate-N	353.2	<0.020	mg/l		09/25/98	NWD
Nitrite-N	354.1	<0.020	mg/l		09/25/98	NWD
Sulfate	300.0	704	mg/l		10/02/98	JPS
TOC	415.1	1.2	mg/l		10/01/98	JPS
TDS	160.1	868	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	7.07	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.0225	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	0.071	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	37.5	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	6.06	mg/l	10/09/98	10/12/98	FTS
Iron	200.7	110	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	8.93	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	1.33	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	<0.0001	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	0.113	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	2.28	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	0.009	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	19.2	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	3.21	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	6.28	mg/l	10/09/98	10/12/98	FTS

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SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 147433  
Description: GW-3

Coll. Date: 09/25/98  
Coll. Time:

Date Received: 09/25/98  
Date Reported: 10/28/98  
Date Revised: 11/23/98

QA/QC Officer *ma*  
V.P. Analytical *mb*

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		22.6	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		11.4	ft.		09/25/98	GWS
pH-Field at 19.0 C	150.1	6.17	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	232	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	19.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	179	mg/l		09/28/98	NWD
Ammonia-N	350.3	0.126	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	4.27	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDH
Nitrate-N	353.2	<0.020	mg/l		09/25/98	NWD
Nitrite-N	354.1	<0.020	mg/l		10/02/98	NWD
Sulfate	300.0	59.9	mg/l		10/02/98	JPS
TOC	415.1	1.1	mg/l		10/01/98	JPS
TDS	160.1	248	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	30.6	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.054	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	23.6	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	0.038	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	0.127	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	45.2	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	45.1	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	2.12	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	<0.0001	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	0.027	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	0.390	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	10.7	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	0.367	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	0.024	mg/l	10/02/98	10/08/98	FTS

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

108 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

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FAX (803) 791-9111  
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

**Client:** NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

**Attention:** Scott Wilkinson

SHEALY Lab No: 147437  
Description: Well H

Coll. Date: 09/25/98  
Coll. Time: 1320

Date Received: 09/25/98  
Date Reported: 10/28/98  
Date Revised: 11/23/98

QA/QC Officer MA  
V.P. Analytical MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		61.98	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		51.91	ft.		09/25/98	GWS
pH-Field at 19.0 C	150.1	4.63	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	90.4	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	19.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	<10.0	mg/l		09/28/98	NWD
Ammonia-N	350.3	0.131	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	6.64	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDH
Nitrate-N	353.2	2.30	mg/l		09/25/98	NWD
Nitrite-N	354.1	<0.020	mg/l		09/25/98	NWD
Sulfate	300.0	19.5	mg/l		09/28/98	JPS
TOC	415.1	1.1	mg/l		10/01/98	JPS
TDS	160.1	120	mg/l		09/29/98	JEM

### METALS

Aluminum	6010B	0.334	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.026	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	1.43	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	0.041	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	3.16	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	<5.00	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	0.110	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	<0.0001	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	<0.010	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	0.274	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	15.3	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	0.036	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	0.017	mg/l	10/02/98	10/08/98	FTS

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111  
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

**Client:** NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

**Attention:** Scott Wilkinson

**SHEALY Lab No:** 147438  
**Description:** Well 1

**Coll. Date:** 09/25/98  
**Coll. Time:** 1345

**Date Received:** 09/25/98  
**Date Reported:** 10/28/98  
**Date Revised:** 11/23/98

**QA/QC Officer** MA  
**V.P. Analytical** MA

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		88.30	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		52.25	ft.		09/25/98	GWS
pH-Field at 20.0 C	150.1	4.55	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	71.9	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	20.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	<10.0	mg/l		09/28/98	NWD
Ammonia-N	350.3	0.106	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	9.06	mg/l		09/28/98	JPS
Cyanide-Total	335.2	0.022	mg/l	09/29/98	09/30/98	JDH
Nitrate-N	353.2	1.32	mg/l		09/25/98	NWD
Nitrite-N	354.1	<0.020	mg/l		09/25/98	NWD
Sulfate	300.0	11.5	mg/l		09/28/98	JPS
TOC	415.1	<1.0	mg/l		10/01/98	JPS
TDS	160.1	152	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	0.448	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.033	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	1.52	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	0.008	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	0.009	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	0.570	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	2.36	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	0.058	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	0.0005	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	<0.010	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	0.264	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	8.97	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	0.018	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS



# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

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SC DHEC No. 32010

NC DEHNR No. 329



**Client:** NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

**Attention:** Scott Wilkinson

**SHEALY Lab No:** 147436  
**Description:** Well J

**Coll. Date:** 09/25/98  
**Coll. Time:** 1300

**Date Received:** 09/25/98  
**Date Reported:** 10/28/98  
**Date Revised:** 11/23/98

**QA/QC Officer**   
**V.P. Analytical** 

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		63.90	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		58.65	ft.		09/25/98	GWS
pH-Field at 19.0 C	150.1	5.11	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	79.1	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	19.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	10.3	mg/l		09/28/98	NWD
Ammonia-N	350.3	0.112	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	4.24	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDB
Nitrate-N	353.2	0.694	mg/l		09/25/98	NWD
Nitrite-N	354.1	<0.020	mg/l		09/25/98	NWD
Sulfate	300.0	19.6	mg/l		09/28/98	JPS
TOC	415.1	<1.0	mg/l		10/01/98	JPS
TDS	160.1	132	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	0.707	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.017	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	2.27	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	0.023	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	3.80	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	3.93	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	0.064	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	<0.0001	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	<0.010	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	0.268	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	6.49	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	0.026	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111  
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

**Client:** NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

**Attention:** Scott Wilkinson

SHEALY Lab No: 147435  
Description: Well K

Coll. Date: 09/25/98  
Coll. Time: 1210

Date Received: 09/25/98  
Date Reported: 10/28/98  
Date Revised: 11/23/98

QA/QC Officer *mar*

V.P. Analytical *mb*

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		82.53	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		60.25	ft.		09/25/98	GWS
pH-Field at 20.0 C	150.1	5.89	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	88.4	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	20.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	39.5	mg/l		09/28/98	NWD
Ammonia-N	350.3	0.992	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	3.85	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDE
Nitrate-N	353.2	0.024	mg/l		09/25/98	NWD
Nitrite-N	354.1	0.080	mg/l		09/25/98	NWD
Sulfate	300.0	4.51	mg/l		09/28/98	JPS
TOC	415.1	<1.0	mg/l		10/01/98	JPS
TDS	160.1	116	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	35.6	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	0.006	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.112	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	9.56	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	0.055	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	0.091	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	63.6	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	30.9	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	1.13	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	<0.0001	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	0.050	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	0.343	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	7.18	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	0.655	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

(803) 791-9700  
FAX (803) 791-9111  
www.shealyenvironmental.com

SC DHEC No. 32010

NC DEHNR No. 329

**Client:** NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

**Attention:** Scott Wilkinson

**SHEALY Lab No:** 147434  
**Description:** Well P

**Coll. Date:** 09/25/98  
**Coll. Time:** 1125

**Date Received:** 09/25/98  
**Date Reported:** 10/28/98  
**Date Revised:** 11/23/98

**QA/QC Officer** 

**V.P. Analytical** 

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
Well Depth		89.18	ft.		09/25/98	GWS
Water Level Depth From Top of Casing		73.06	ft.		09/25/98	GWS
pH-Field at 19.0 C	150.1	5.99	SU		09/25/98	GWS
Specific Conductance at 25 C - Field	120.1	113	umhos/cm		09/25/98	GWS
Temperature-Field	170.1	19.0	C		09/25/98	GWS
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	61.0	mg/l		09/28/98	NWD
Ammonia-N	350.3	0.191	mg/l	10/01/98	10/01/98	JDH
Chloride	300.0	3.41	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDH
Nitrate-N	353.2	<0.020	mg/l		09/25/98	NWD
Nitrite-N	354.1	0.032	mg/l		09/25/98	NWD
Sulfate	300.0	5.28	mg/l		09/28/98	JPS
TOC	415.1	<1.0	mg/l		10/01/98	JPS
TDS	160.1	148	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	8.51	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	0.017	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	6.35	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	0.038	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	0.031	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	15.0	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	13.4	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	0.721	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	0.0004	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	0.022	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	0.294	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	9.41	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	0.275	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS

# SHEALY ENVIRONMENTAL SERVICES, INC.

Scientists and Consultants

106 VANTAGE POINT DRIVE  
CAYCE, SOUTH CAROLINA 29033

## CERTIFICATE OF ANALYSIS

(803) 791-9700  
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SC DHEC No. 32010

NC DEHNR No. 329

Client: NEVADA GOLDFIELDS  
P.O. Box 1530  
McCormick, SC 29835

Attention: Scott Wilkinson

SHEALY Lab No: 147439  
Description: Field Blank

Coll. Date: 09/25/98  
Coll. Time: 1336

Date Received: 09/25/98  
Date Reported: 10/28/98  
Date Revised: 11/23/98

QA/QC Officer *MA*  
V.P. Analytical *MA*

Parameters	Method	Result	Units	Date Prepared	Date Analyzed	Anal.
<b>INORGANICS</b>						
Alkalinity-Bicarbonate	SM4500D	<10.0	mg/l		09/28/98	NWD
Ammonia-N	350.3	<0.100	mg/l	09/29/98	09/29/98	EDN
Chloride	300.0	<1.00	mg/l		09/28/98	JPS
Cyanide-Total	335.2	<0.010	mg/l	09/29/98	09/30/98	JDE
Nitrate-N	353.2	<0.020	mg/l		09/25/98	NWD
Nitrite-N	354.1	<0.020	mg/l		09/25/98	NWD
Sulfate	300.0	<1.00	mg/l		09/28/98	JPS
TOC	415.1	<1.0	mg/l		10/01/98	JPS
TDS	160.1	74	mg/l		09/29/98	JEM
<b>METALS</b>						
Aluminum	6010B	<0.050	mg/l	10/02/98	10/08/98	FTS
Arsenic	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Barium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Cadmium	6010B	<0.002	mg/l	10/02/98	10/08/98	FTS
Calcium	6010B	0.121	mg/l	10/02/98	10/08/98	FTS
Chromium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Copper	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Iron	200.7	<0.100	mg/l	10/02/98	10/08/98	FTS
Lead	6010B	<0.003	mg/l	10/02/98	10/08/98	FTS
Magnesium	6010B	<0.030	mg/l	10/02/98	10/08/98	FTS
Manganese	6010B	<0.010	mg/l	10/02/98	10/08/98	FTS
Mercury	7470A	<0.0001	mg/l	09/30/98	10/01/98	FTC
Nickel	6010B	<0.010	mg/l	10/02/98	10/08/98	FTS
Potassium	6010B	<0.200	mg/l	10/02/98	10/08/98	FTS
Selenium	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Silver	6010B	<0.005	mg/l	10/02/98	10/09/98	FTS
Sodium	6010B	0.193	mg/l	10/02/98	10/08/98	FTS
Zinc	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS
Dissolved Copper	6010B	<0.005	mg/l	10/02/98	10/08/98	FTS

106 Vantage Pointe Drive

Cayce, South Carolina 29033

Telephone No. (803) 791-9700 Fax No. (803) 791-9111

Page 1 of 2

## CHAIN OF CUSTODY #

Client Name Nevada

Reporting Address

Ms Carmick SCAttention Scott Wilkerson

Telephone No. \_\_\_\_\_ P.O. No. \_\_\_\_\_

## CHAIN OF CUSTODY RECORD

## SAMPLE ANALYSIS REQUIRED

NPDES # \_\_\_\_\_

County \_\_\_\_\_

Receiving Stream \_\_\_\_\_

Outfall No. \_\_\_\_\_

Sample ID (Location)	Yr. <u>1990</u> DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH	Conductivity	BOD	Nutrients - Specify	METALS - Specify	COX - Specify	BTEX	VOC - Specify Method Required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNAs	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify	General - Specify	Dissolved	←PRESERVATION (CODE)		LAB USE ONLY	
																											CODE: A = None B = HNO3 C = H2SO4 D = NaOH E = ICE	REMARKS	Program Area (Circle) DW CWA/NPDES RCRA SP/SOL SP/LIQ Other: _____	SESI LAB I.D.
GW-1	Start 25 Sept											✓	✓	✓															General - Alk, Chloride, N. trite - N, N. trite - N Sulfate, TDS	147431
GW-2	Start											✓	✓	✓															Notes: Ammonia-N Metals - (TOTAL) Al, As, Bc Cd, Cr, Cu, Pb Mg, Mn, Hg, Ni, K, Se, Ag, Na, Zn	147432
GW-3	Start											✓	✓	✓																
Well P	Start											✓	✓	✓																
Well K	Start	1125										✓	✓	✓																
Well J	Start	1210										✓	✓	✓																
Well H	Start	1300										✓	✓	✓																
Well I	Start	1320										✓	✓	✓																
Well I	Start	1345										✓	✓	✓																
SAMPLER MILTON QUATTLEBAM Print Name: Signature: <u>Milton Quattlebam</u>	Date/Time 25 Sept 90 1615	Received by (Sig.) <u>And. [Signature]</u>		Date/Time 9/25/90 1615	Hazards Associated with Sample		Custody Seal Intact (Circle) YES NO NONE Receipt TRC _____ mg/l Receipt pH _____ su Receipt Temp. _____ °C Received on Ice (Circle) YES NO ICE PACK																							
Relinquished by (Sig.)	Date/Time	Received by (Sig.)		Date/Time																										
Relinquished by (Sig.)	Date/Time	Lab Receipt by (Sig.)		Date/Time																										

## CHAIN OF CUSTODY #

Client Name Nevada

Reporting Address \_\_\_\_\_

M<sup>r</sup> Cormick SrAttention S. Wilkerson

Telephone No. \_\_\_\_\_ P.O. No. \_\_\_\_\_

108 Vantage Pointe Drive  
Cayce, South Carolina 29033  
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

NPDES # \_\_\_\_\_

County \_\_\_\_\_

Receiving Stream \_\_\_\_\_

Outfall No. \_\_\_\_\_

## CHAIN OF CUSTODY RECORD

## SAMPLE ANALYSIS REQUIRED

Sample ID (Location)	Yr. <u>1994</u> DATE	TIME	WELL	SOLID	COMP	GRAB	# of containers	pH, Conductivity	BOD	Nutrients - Specify	METALS - Specify	CO <sub>2</sub> - Specify	RTX	VOC - Specify Method Required	Pesticides/PCBs - Specify	Herbicides	Total Phenol	Oil & Grease	BNA's	Solids - Specify	Cyanide	Coliform - Specify type	Toxicity - Specify	← PRESERVATION (CODE)		LAB USE ONLY		
																								CODE: A = None B = HNO <sub>3</sub> C = H <sub>2</sub> SO <sub>4</sub> D = NaOH E = ICE	REMARKS	Program Area (Circle) DW CWA/NPDES RCRA SP/SOL SP/LIQ Other: _____	SESI LAB I.D.	
Field Blank	Start <u>25 Sept</u> Finish	<u>1336</u>									✓	✓	✓									✓					Gen - Alk Chloride, TDS Sulfate, Nitrate-N Nitrite-N	147439
	Start Finish																										Nits - Ammonia-N, TDS	
	Start Finish																										Metals (TOTAL) Al, As, Ba Cd, Ca, Cr, Cu, Pb, Mg, Mn, Hg, Ni, K Se, Ag, Na, Zn	
	Start Finish																										Dissolved Cu	
	Start Finish																											
	Start Finish																											

SAMPLER  
MILTON QUATTLEBORN  
Print Name:  
Signature: Milton Quattleborn

Date/Time

25 Sept 1615

Received by (Sig.)

Date/Time

Hazards Associated with Sample

Custody Seal Intact (Circle)  
YES NO NONE

Receipt TRC \_\_\_\_\_ mg/l

Receipt pH \_\_\_\_\_ su

Receipt Temp. \_\_\_\_\_ °C

Relinquished by (Sig.)

Date/Time

Received by (Sig.)

Date/Time

Relinquished by (Sig.)

Date/Time

Lab Receipt by (Sig.)

Date/Time

Received on Ice (Circle)  
YES NO ICE PACK

White Cover: Sampler

Yellow Cover: Shovel

Pink Cover: Receipt

**Field Data Information Sheet For Groundwater Sampling**

Shealy Environmental Services, Inc.  
106 Vantage Point Drive  
Cayce, S.C. 29033

Page \_\_\_\_ of \_\_\_\_

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 4 inches	Casing Material: <del>PVC</del> Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - <del>Metal</del> - No	Locking Cap: <del>Y</del> N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: Y - <del>N</del>	Integrity Satisfactory: <del>Y</del> - N
Well ID #	GW-1		Well Yield: Low - Mod. - High	
Weather Conditions	Clear	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	36.95			
Depth To Groundwater (DGW) =	24.95			
Length Of Water Column (LWC) =	12.00			
1 Casing Volume (OCV) = LWC x	.625		652 = 7.8	gal.
3 Casing Volumes =	23.4		gal. = Standard Evacuation Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	TB SSB WW GP Other			
Method of Sample Collection	TB SSB WW GP Other			

Evacuation and Collection Methods

TB - Teflon Bailer  
SSB - Stainless Steel Bailer  
WW - Well Wizard  
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092      5" = 1.02  
2" = 0.163      6" = 1.47  
3" = 0.367      7" = 2.00  
4" = 0.652      8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

15+	7.8				WELL SAMPLE TIME: 1020
0956	1003				Remarks:
3.28	3.68				Dry @ 7.8
18.0	17.0				
375	380				
1	3				
1	2				

**Field Data Information Sheet For Groundwater Sampling**

Page \_\_\_\_ of \_\_\_\_

Shealy Environmental Services, Inc.  
106 Vantage Point Drive  
Cayce, S.C. 29033

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 4 inches	Casing Material: PVC Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - Metal - No	Locking Cap: Y - N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: Y - N	Integrity Satisfactory: Y - N
Well ID #	CW-2		Well Yield: Low - Mod. - High	
Weather Conditions	Clear	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	28.20			
Depth To Groundwater (DGW) =	22.50			
Length Of Water Column (LWC) =	5.7			
1 Casing Volume (OCV) = LWC x	.652	= 3.7	gal.	
3 Casing Volumes =	11.1		gal. = Standard Evacuation Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	TB	SSB	WW	GP
Method of Sample Collection	TB	SSB	WW	GP

Evacuation and Collection Methods

TB - Teflon Bailer  
SSB - Stainless Steel Bailer  
WW - Well Wizard  
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092      5" = 1.02  
2" = 0.163      6" = 1.47  
3" = 0.367      7" = 2.00  
4" = 0.652      8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

1st	3.7				WELL SAMPLE TIME: 1010
0937	0939				Remarks:
3.58	3.62				Dry @ 3.7
18.0	18.0				
600	650				
1	1				
2	1				



**Field Data Information Sheet For Groundwater Sampling**

Shealy Environmental Services, Inc.  
106 Vantage Point Drive  
Cayce, S.C. 29033

Page \_\_\_\_ of \_\_\_\_

Date (MM-DD-YY)	SEPTEMBER 25, 1998				Casing Diameter: 4 inches	Casing Material: <del>PVC</del> Metal
Field Personnel	GWS, MPQ				Guard Pipe: PVC - <del>Metal</del> - No	Locking Cap: <del>Y</del> - N
Facility Name	NEVADA GOLDFIELDS, INC.				Protective Abutment: Y - <del>N</del>	Integrity Satisfactory: <del>Y</del> - N
Well ID #	GW-3				Well Yield: Low - Mod. - High	
Weather Conditions	Clear	Air Temperature	°C.	Remarks:		
Total Well Depth (TWD) =	22.6					
Depth To Groundwater (DGW) =	11.4					
Length Of Water Column (LWC) =	11.2					
1 Casing Volume (OCV) = LWC x	0.652	=	7.3	gal.		
3 Casing Volumes =	21.9				gal. = Standard Evacuation Volume	
Total Volume of Water Removed =					gal.	
Method of Well Evacuation	TB	<del>SSB</del>	WW	GP	Other _____	
Method of Sample Collection	TB	<del>SSB</del>	WW	GP	Other _____	

Evacuation and Collection Methods

TB - Teflon Bailer  
SSB - Stainless Steel Bailer  
WW - Well Wizard  
GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092      5" = 1.02  
2" = 0.163      6" = 1.47  
3" = 0.367      7" = 2.00  
4" = 0.652      8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

157	7.3				WELL SAMPLE TIME: 1055
1043	1048				Remarks:
6.15	6.17				Dry @ 7.3
20.0	19.0				
210	205				
1	3				
1	1				

**Field Data Information Sheet For Groundwater Sampling**

Page \_\_\_\_ of \_\_\_\_

**Shealy Environmental Services, Inc.**  
**106 Vantage Point Drive**  
**Cayce, S.C. 29033**

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 2 inches	Casing Material: <del>PVC</del> - Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - <del>Metal</del> - No	Locking Cap: <del>Y</del> - N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: Y <del>N</del>	Integrity Satisfactory: <del>Y</del> - N
Well ID #	Well H		Well Yield: Low - <del>Mod.</del> - High	
Weather Conditions	Cler. Hot	Air Temperature	°C.	
Total Well Depth (TWD) =	61.98		Remarks:	
Depth To Groundwater (DGW) =	51.91			
Length Of Water Column (LWC) =	10.07			
1 Casing Volume (OCV) = LWC x	4.63	= 1.6	gal.	
3 Casing Volumes =	4.8	gal. = Standard Evacuation Volume		
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	<del>TB</del> SSB WW GP Other _____			
Method of Sample Collection	<del>TB</del> SSB WW GP Other _____			

Evacuation and Collection Methods

TB - Teflon Bailer  
 SSB - Stainless Steel Bailer  
 WW - Well Wizard  
 GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092	5" = 1.02
2" = 0.163	6" = 1.47
3" = 0.367	7" = 2.00
4" = 0.652	8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	WELL SAMPLE TIME:
	16	3.2	4.8		1320
	1308	1310	1312	1314	Remarks:
	5.06	4.70	4.68	4.63	
	20	20	20	19	
	80	80	80	80	
	1	1	1	1	
	1	1	1	1	

**Field Data Information Sheet For Groundwater Sampling**

Page \_\_\_\_ of \_\_\_\_

**Shealy Environmental Services, Inc.**  
**106 Vantage Point Drive**  
**Cayce, S.C. 29033**

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 2 inches	Casing Material: PVC - Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - Metal, No	Locking Cap: Y - N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: Y N	Integrity Satisfactory: Y - N
Well ID #	Well I		Well Yield: Low - Mod. - High	
Weather Conditions	Clear, Hot	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	88.30			
Depth To Groundwater (DGW) =	52.25			
Length Of Water Column (LWC) =	36.05			
1 Casing Volume (OCV) = LWC x	4.163	= 5.9	gal.	
3 Casing Volumes =	17.7		gal. = Standard Evacuation Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	TB	SSB	WW	GP Other
Method of Sample Collection	TB	SSB	WW	GP Other

**Evacuation and Collection Methods**

TB - Teflon Bailer  
 SSB - Stainless Steel Bailer  
 WW - Well Wizard  
 GP - Grunfos Pump

**Constants for Casing Diameters**

1.5" = 0.092      5" = 1.02  
 2" = 0.163      6" = 1.47  
 3" = 0.367      7" = 2.00  
 4" = 0.652      8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

151	5.9	11.8	17.7		WELL SAMPLE TIME: 1345
1328	1330	1332	1334		Remarks:
5.19	4.58	4.63	4.55		
20.0	21.0	20.0	20.0		Field Blank @ 1336
75	65	65	65		
3	2	1	1		
1	1	1	1		

**Field Data Information Sheet For Groundwater Sampling**

Page \_\_\_\_ of \_\_\_\_

Shealy Environmental Services, Inc.  
106 Vantage Point Drive  
Cayce, S.C. 29033

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 2 inches	Casing Material: PVC - Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - Metal - No	Locking Cap: Y - N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: Y - N	Integrity Satisfactory: Y - N
Well ID #	Well J		Well Yield: Low - Mod - High	
Weather Conditions	Clear	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	6390			
Depth To Groundwater (DGW) =	58.65			
Length Of Water Column (LWC) =	5.25			
1 Casing Volume (OCV) = LWC x	0.163	= 0.9	gal.	
3 Casing Volumes =	2.7		gal. = Standard Evacuation Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	(TB) SSB WW GP Other			
Method of Sample Collection	(TB) SSB WW GP Other			

**Evacuation and Collection Methods**

TB - Teflon Bailer  
SSB - Stainless Steel Bailer  
WW - Well Wizard  
GP - Grunfos Pump

**Constants for Casing Diameters**

1.5" = 0.092      5" = 1.02  
2" = 0.163      6" = 1.47  
3" = 0.367      7" = 2.00  
4" = 0.652      8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)	15	0.9	1.8	2.7	WELL SAMPLE TIME:
TIME (24 HOUR SYSTEM)	1247	1248	1249	1250	1300
pH (SU)	5.10	5.15	5.12	5.11	Remarks:
WATER TEMPERATURE (°C.)	20.0	20	19.0	19.0	
SP. CONDUCTIVITY (UMHOS/CM)	70	70	70	70	
TURBIDITY (SUBJECTIVE)*	1	1	1	1	
ODOR (SUBJECTIVE)**	1	1	1	1	

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

## Field Data Information Sheet For Groundwater Sampling

Shealy Environmental Services, Inc.  
106 Vantage Point Drive  
Cayce, S.C. 29033

Page \_\_\_\_ of \_\_\_\_

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 2 inches	Casing Material: <input checked="" type="checkbox"/> Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - <input checked="" type="checkbox"/> Metal - No	Locking Cap: <input checked="" type="checkbox"/> N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: <input checked="" type="checkbox"/> N	Integrity Satisfactory: <input checked="" type="checkbox"/> N
Well ID #	Well K		Well Yield: Low - Mod. - High	
Weather Conditions	Clear	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	81.53			
Depth To Groundwater (DGW) =	60.25			
Length Of Water Column (LWC) =	21.28			
1 Casing Volume (OCV) = LWC x	.163	= 3.5	gal.	
3 Casing Volumes =	10.5		gal. = Standard Evacuation Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	TB	SSB	WW	<input checked="" type="checkbox"/> GP Other _____
Method of Sample Collection	<input checked="" type="checkbox"/> TB	SSB	WW	GP Other _____

## Evacuation and Collection Methods

TB - Teflon Bailer  
SSB - Stainless Steel Bailer  
WW - Well Wizard  
GP - Grunfos Pump

## Constants for Casing Diameters

1.5" = 0.092      5" = 1.02  
2" = 0.163      6" = 1.47  
3" = 0.367      7" = 2.00  
4" = 0.652      8" = 2.61

## FIELD ANALYSES

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

15+	3.5				WELL SAMPLE TIME: 1210
1145	1148				Remarks:
6.28	5.89				Dry @ 3.5
220	20.0				
95	80				
2	2				
1	1				

**Field Data Information Sheet For Groundwater Sampling**

Page \_\_\_\_ of \_\_\_\_

**Shealy Environmental Services, Inc.**  
**106 Vantage Point Drive**  
**Cayce, S.C. 29033**

Date (MM-DD-YY)	SEPTEMBER 25, 1998		Casing Diameter: 2 inches	Casing Material: <del>PVC</del> Metal
Field Personnel	GWS, MPQ		Guard Pipe: PVC - Metal No	Locking Cap: <u>Y</u> N
Facility Name	NEVADA GOLDFIELDS, INC.		Protective Abutment: Y - <u>N</u>	Integrity Satisfactory: <u>Y</u> N
Well ID #	Well P		Well Yield: Low - Mod. - High	
Weather Conditions	Clear	Air Temperature	°C.	Remarks:
Total Well Depth (TWD) =	89.18			
Depth To Groundwater (DGW) =	73.06			
Length Of Water Column (LWC) =	16.12			
1 Casing Volume (OCV) = LWC x	.163	= 2.6	gal.	
3 Casing Volumes =	7.8		gal. = Standard Evacuation Volume	
Total Volume of Water Removed =			gal.	
Method of Well Evacuation	TB	SSB	WW	GP
Method of Sample Collection	TB	SSB	WW	GP

Evacuation and Collection Methods

TB - Teflon Bailer  
 SSB - Stainless Steel Bailer  
 WW - Well Wizard  
 GP - Grunfos Pump

Constants for Casing Diameters

1.5" = 0.092      5" = 1.02  
 2" = 0.163      6" = 1.47  
 3" = 0.367      7" = 2.00  
 4" = 0.652      8" = 2.61

**FIELD ANALYSES**

VOLUME PURGED (GALLONS)

TIME (24 HOUR SYSTEM)

pH (SU)

WATER TEMPERATURE (°C.)

SP. CONDUCTIVITY (UMHOS/CM)

TURBIDITY (SUBJECTIVE)\*

ODOR (SUBJECTIVE)\*\*

\* 1 = CLEAR 2 = SLIGHT 3 = MODERATE 4 = HIGH

\*\* 1 = NONE 2 = FAINT 3 = MODERATE 4 = STRONG

15+	2.6	5.2	7.8		WELL SAMPLE TIME: 1125
1111	1113	1115	1118		Remarks:
6.44	6.42	6.01	5.99		
21.0	20.0	19.0	19.0		
110	110	100	100		
3	3	3	3		
1	1	1	1		